

Challenges of Nutrient Reduction in the Upper Susquehanna River Basin

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Town and Village of Owego



Town of Owego

- 20,365 population (lower than in 1990)
 - Village population – 3,911
 - Town (outside Village) – 16,454
- Mix of Village, subdivisions and rural
- 2800 Sewer Customers in the Town
- Many of the sewer lines in the Town are 40-50 years old and in need of repair/replacement
 - IBM came to Town in 1957
- Flooding is on everyone's mind
 - Properties along the river have no extra value
 - Minimal recreational use of the river

Sewage Treatment Facilities

- Owego Sewage Treatment Plant (WPCP#1)
 - .848 mgd
 - \$4M upgrade (new plant) in 1999
 - Went from Trickling Filter to Activated Sludge
 - Serves our two largest employers
 - Sanmina – 800 employees
 - Lockheed Martin – 3,000 employees
- Apalachin Sewage Treatment Plant (WPCP#2)
 - 2 mgd (built in 1971)
 - Mainly residential customers
 - \$600,000 Aeration basin & equipment upgrades - 2002/2003
 - \$1.9 M capital project – 2007/2008
 - Much equipment (motors/boilers etc.) was replaced after 2006 flood
- 2010 Sewer Budget - \$1.73M

History of Flooding

- Four FEMA events within 26 months
 - September 2004 (Ivan)
 - April 2005
 - June 2006
 - November 2006
- Apalachin WPCP sustained \$725,000 damage.

Apalachin WPCP June 2006













Challenges of Nutrient Removal

- No State/Federal grant money currently available for Sewer Capital Projects
- High Property Taxes leave most of our residents feeling that they cannot handle any more fees/increases in rates
 - Our Seniors are especially vulnerable
- Don't want to drive out industry (jobs) with higher sewer rates
- Have gone through two major capital upgrades at our plants that our residents and industries will be paying off for the next 30+ years in capital charges
- Infrastructure is aging – inflow/infiltration

Stearns & Wheler 2005 Nutrient Removal Assessment for Apalachin WPCP#2

- Study examined cost for goal of annual average effluent total nitrogen concentration of 5.0 mg/L and total phosphorus of 0.5 mg/L
- Costs are in 2005 dollars
- Capital Costs
 - Nitrogen Removal - \$8,372,000
 - Phosphorus Removal - \$1,560,000
 - TOTAL CAPITAL COSTS - \$9,932,000
- Operation and Maintenance Costs
 - Nitrogen Removal - \$236,300
 - Phosphorus Removal - \$121,000
 - TOTAL O & M COSTS - \$357,300

Hunt 2009 Nutrient Removal Assessment for Owego WPCP#1

- Study examined cost for goal of annual average effluent total nitrogen concentration of 5.0 mg/L and total phosphorus of 0.5 mg/L
- Costs are in projected 2010 dollars
- Capital Costs
 - Nitrogen Removal - \$4,173,000
 - Phosphorus Removal - \$780,000
 - TOTAL CAPITAL COSTS - \$4,953,000
- Operation and Maintenance Costs
 - Nitrogen Removal - \$80,000
 - Phosphorus Removal - \$65,000
 - TOTAL O & M COSTS - \$145,000

Additional Operation and Maintenance and Capital Costs

Total Additional O & M Costs - \$502,300 per year

Total Additional Capital Costs - \$14,885,000

- These additional O&M costs would raise our sewer rates by approximately **68%**.
- The additional yearly bond payment cost (\$825,000) for the \$15M capital improvement would raise our sewer capital charge by **125%**.
- These estimates are low based on the fact that the projected costs for WPCP#2 are in 2005 construction dollars.

2010 Challenges

- Paying for the additional \$203,000 of operational costs to reach effluent goals of total nitrogen concentration of 12.0 mg/L and total phosphorus of 2 mg/L **rolling averages** at our two plants. The additional \$203,000 is approximately 12% of the total 2010 sewer budget.
- Asking and supporting NYS extending the phosphorus ban on household cleaning products to include automatic dishwasher detergents.
- Asking for Federal Funds for any major capital upgrades that are required for reaching these goals and also for additional operation and maintenance costs.

Questions?

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